

**REMARKS/ARGUMENTS****I. Claims 1-6 Rejection Under 35 U.S.C. §103**

Claims 1-6 are rejected as being unpatentable over Pearl (US 3,815,221) in view of Henninger (US 3,274,409) and Balamuth (3,086,288) and Kuris (3,610,080).

The Applicants have amended the claims to more clearly claim an apparatus having a reciprocating blade for cutting sheet type work material comprising a controller a controller for controlling the acceleration and deceleration of a blade cutting the work material. The controller monitors resonance of the blade and adjusts the frequency of the resonance to compensate for any damping caused by engagement of the blade as it cuts into the work material. No new matter has been added. Support for these amendments is found throughout the specification and drawings, especially at p. 2, para. 7; p.4, para. 11, and p.5, para. 17.

Since these types of blades often reciprocate at rates of 20,000 cycles per minute and up, it can be difficult to accurately control the blade when operating at these speeds. The Applicants invention allows better control of the blade.

The references cited are clearly distinguishable from the claimed invention.

**a. Pearl**

Pearl discloses a method for holding sheet material by a vacuum hold down. Pearl does not disclose means for actuating the blade or a resonator assembly. Since Pearl does not disclose either means for actuating the blade or a resonator assembly, one of ordinary skill in the art trying to solve the problem addressed by the Applicants'

invention involving means for actuating the blade or a resonator assembly would not even consider looking to Pearl.

**b. Henninger**

Henninger discloses a reed driving machine. Henninger is silent as to an apparatus for cutting sheet type work material as the Applicants' now claim. In fact, Henninger teaches away from such a structure by having no cutting apparatus. Therefore, one of ordinary skill in the art attempting to solve the problem solved by the Applicants' invention would not consider the teachings of a reference that is not directed to cutting.

Henninger has absolutely no relevance to the problem addressed by the claimed invention. The Examiner's dismisses the purpose of the claimed invention and the disclosure of the cited references is contrary to controlling Federal Circuit authority.

[T]he purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve... If [the reference] is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it." In re Clay, 23 U.S.P.Q.2d 1058, 1061 (Fed. Cir. 1992).

Thus, there is no basis for combining the teachings of Pearl and Henninger as done by the Examiner in an attempt to yield the Applicants' claimed invention. Indeed, the Examiner made no showing as to why one of ordinary skill in the art seeking to provide a cutting machine to accurately control the blade when operating at high reciprocating rates would look to Pearl and Henninger to attempt to solve that problem.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teachings or suggestion supporting the combination... The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification... Here, ***the Examiner relied upon hindsight to arrive at the determination of***

***obviousness. It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that ‘[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.’”*** In re Fritch, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). See also In re Oetiker, *supra*, 24 U.S.P.Q.2d at 1446; In re Gordon, et. al., 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). (emphasis added).

### **c. Balamuth**

Balamuth discloses an ultrasonically vibrated cutting knife. Balamuth is silent as to having a reciprocating blade. In fact, Balamuth teaches away from a reciprocating blade by disclosing a hand piece to manually hold the blade. (Col. 1, lines 20-25). It is well settled that consideration must be given to those portions of a reference that teach away and diverge from the claimed invention. Akzo N.V. v. Intl. Trade. Comm., 1 U.S.P.Q.2d 1241, 1246 (Fed., Cir. 1986).

### **d. Kuris**

Kuris discloses a shaving instrument that is ultrasonically vibrated to reduce frictional resistance of movement of the shaving instrument relative to the skin and a method of shaving. (See e.g., Abstract). Kuris is silent as to a controller for controlling the acceleration and deceleration of the blade cutting the work material and monitoring resonance of said blade and adjusting the frequency of the resonance to compensate for any damping caused by engagement of said blade into the work material.

In fact, Kuris teaches away from such a controller by disclosing that the blade in Kuris is static and the blade does not reciprocate as claimed by the Applicants. Therefore the controller in Kuris can not control the blade as now claimed by the Applicants. In addition, the blade in Kuris merely uses flexural vibrations to reduce

resistance and has nothing to do with the actual cutting. These vibrations in Kuris are used to reduce friction across the skin. (See, Col. 4, lines 25-33) In contrast, the Applicants invention uses the controller to control acceleration and deceleration of a blade. Therefore, Kuris can not be used to for monitoring or damping the vibration of the cutting blade as claimed by the Applicants.

Clearly, there are substantial structural and functional differences between the references cited and the subject matter sought to be patented. None of the references teach or suggest an apparatus having a reciprocating blade and a controller that controls the acceleration and deceleration of the blade cutting the work material and monitoring resonance of the blade and adjusting the frequency of resonance to compensate for any damping caused by engagement of the blade into work material.

Withdrawal of the rejections and allowance of the claims is respectfully requested. If any issues remain, or if the Examiner has any suggestions for expediting allowance of the application, the Examiner is invited to contact the undersigned attorney.

**AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees that may be required for this response to Deposit Account **13-4500**, Order No. **4757-4142US1**, and is hereby petitioned for any extension of time that may be required to make this response timely. **A DUPLICATE OF THIS SHEET IS ATTACHED.**

Respectfully submitted,  
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By: \_\_\_\_\_

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